

Extended Postpartum Modern Contraceptive Utilization and Associated Factors among Women in Gozamen District, East Gojam Zone, Northwest Ethiopia, 2014

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Abstract

Introduction: Pregnancies that occur in the first year postpartum are more likely to be unplanned and have adverse outcomes for the mother and baby. Modern contraceptive use during the first year postpartum has the potential to significantly decrease unplanned pregnancies and help to improve maternal and child health. Therefore addressing the extent and factors related to contraceptive utilization of women during extended postpartum period is essential.

Objective: This study aimed to assess postpartum modern contraceptive utilization and associated factors among extended postpartum women in Gozamen district, East Gojam Zone, Northwest Ethiopia.

Method: A Community based cross-sectional study was carried out on women who were in the first year after child birth. A total of 829 study participants were included using multistage sampling techniques. A structured and pretested questionnaire was used to collect data through face to face interview.

Results: The prevalence of modern contraceptive was 46.7% among extended postpartum mothers. The most frequent used method was Injectable (68.2%). Urban residence (AOR=3.1, 95% CI: 1.14, 8.36), Educational status of the women (AOR=4.1, 95% CI: 1.16, 9.9), Discussion with partner (AOR=3.04, 95% CI: 1.12, 8.23), Knowledge of modern contraceptive (AOR=16.01, 95% CI: 5.88, 43.56) and menses resumption (AOR=8.49, 95% CI: 5.04, 14.3) were factors found to be statistically significant.

Conclusion: Current utilization of postpartum modern contraceptive method was unsatisfactory. Place of residence, educational level, partner involvement, knowledge of modern contraceptive and menses resumption were important determinants of contraceptive use.

Keywords: Modern contraceptive; Associated factors; Extended postpartum

Abbreviations: ANC: Ante Natal Care; CPR: Contraceptive Prevalence Rate; EDHS: Ethiopian Demographic and Health Survey; EPP: Extended Postpartum; ETB: Ethiopian Birr; FP: Family Planning; HEW: Health Extension Workers; IUD: Intra Uterine Device; IUFD: Intra Uterine Fetal Death; LAM: Lactational Amenorrhea Method; NGO: Non-Governmental Organization; PNC: Postnatal Care; PFP: Postpartum Family Planning; SPSS: Statistical Package for the Social Sciences; STD: Sexually Transmitted Disease

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Background

An estimated 287,000 maternal deaths occurred globally in 2010. Among these Sub-Saharan Africa accounts about 56% of deaths [1]. About 95% of women in low and middle income countries want to avoid pregnancy for at least two years following child birth [2]. Family planning (FP) use during the first year postpartum has the potential to considerably reduce at least some of these unintended pregnancies [3,4]. Postpartum modern contraceptive has significant role in reducing unmet need for FP since postpartum women are among those with the greatest unmet need [5]. Longer birth intervals can prevent 10% of infant deaths and about 1 in 5 deaths in children of 1 to 4 years of age and protect mothers from obstetric related complications [6,7].

Postpartum modern contraceptive has the potential to reduce 71% of unwanted pregnancies: abolishing 53 million unintended pregnancy, 22 million fewer unplanned births, 25 million fewer induced abortion and 7 million fewer miscarriages [8]. According to analysis done in 172 countries, without contraceptive use, the number of maternal deaths would have been 1.8 times higher (equivalent to 614 000 deaths) than with contraceptive use, which means that contraceptive use averted 44.3% of maternal deaths [9].

In Ethiopia around 9000 maternal death is reported in 2012 [10]. One of goals of the Ministry of Health of Ethiopia, with regard to improving maternal and child health, is to raise the contraceptive prevalence rate (CPR) to 66% by 2015. Currently, overall family planning coverage and modern contraceptive use that are the key indicators of maternal and child health remains low in the country (29% and 27%), respectively [7]. Despite the accepted demand for postpartum contraception, many postpartum women do not access the FP information or services they need to delay or prevent consequent pregnancies in sub Saharan Africa [11,12].

Extended postpartum (EPP) period is a critical period for addressing unmet need for FP since EPP is often associated with a woman's frequent encounter with the health system. These encounters provide opportunity to promote optimal spacing of births through postpartum family planning [13,14]. Therefore this study will be intended to assess modern contraceptive utilization and associated factors among women of EPP.

Methods

A community based cross-sectional study was conducted in Gozamen District, one of the 18 Woredas of East Gojam Zone, from October to November 2014. Debra Markos, the zonal capital, is found in the Gozamen Woreda. It is located 300 KM away from Addis Ababa, Capital city of Ethiopia, in North West. The Woreda is divided in to 27 Kebeles of which 7 are urban and 20 are rural Kebeles. The population size of the Woreda is estimated to be 151,312 at the time of the study. Among the total population, about 35,679 are women of reproductive age group. The Woreda has two health centers and 27 health posts [7].

The study population was comprised of all women who gave birth within the last 1 year before the survey in the selected

Kebeles. A multistage sampling technique was used to select the respondent and finally the study units were selected using systematic random sampling from a list of women provided by Health extension workers. The sample size was determined by using a single population proportion formula considering the following assumptions: Prevalence of modern contraceptive use among women in the postpartum period was found to be 48.8% ($p=0.488$), 5% level of significance ($\alpha=0.05$). The final sample size adjusted for none response rate of 10% and design effect of 2 was 844. Data was collected by six fourth year extension BSc midwifery students through face to face interview using a structured and pre-tested questionnaire.

Data was organized using EPI Info 2002 and exported to SPSS version 16.0 software packages for analysis. Variables found significant (p -value ≤ 0.2) on bivariate analysis were fitted in multiple logistic regression analysis to determine the effect of various factors on the outcome variable and to control confounding effect. The results were presented in the form of tables, figures and text using frequency and summary statistics such as mean, standard deviation and percentage. The degree of association between the independent and dependent variables was analyzed using odds ratio with 95% confidence interval.

Ethical clearance was obtained from Institutional Review Board (IRB) of University of Gondar. A letter of cooperation was written to East Gojam Health Department bureau. Finally written ascent and consent was obtained from each woman.

Results

Socio-demographic characteristics

A total of 829 mothers were responded completely for the study making response rate of 98.22%. Out of the total study subjects 564 (68%) were rural dwellers. The mean age (SD) of the mothers was 27.53 (± 5.32) years. The majority, 796 (96%), were married and 792 (95.5%) orthodox in religion. Among the study participants only 271 (32.7%) were attended formal education. About 422 (51%) respondents' husband have attended formal education. About 501 (60.4%) study participants responded that their residence was about 30 min to 1 h far from nearby FP service providing center on foot (**Table 1**).

Reproductive characteristics

The average number of pregnancies of the respondents was 3.16. Among the study participants 79 (9.5%) and 100 (12.1%) experienced abortion and IUFD/stillbirth in their past respectively. Majority of the respondents 308 (37.2%) have had two to three years gap between the previous and current birth. 342 (41.3%) of the current births were unplanned with regard to reproductive plan, of the study subjects, 534 (64.4%) want to space next pregnancy and 170 (20.5%) want no more children while 125 (15.1%) of mothers haven't decided yet. Majority 517 (62.4%) of the mothers planned number of children they want to have. Of mothers who planned number of children, more than one third (35.2%) of the respondents wanted to have four or less than four children. 774 (93.4%) of study subjects had received ANC service

at least once. About 479 (57.8%) of mothers gave birth to their current child in governmental health institutions. Majority, 91% respondents had contact with a health professional or HEW after child birth for different reasons (**Table 2**).

Knowledge of modern contraceptive and partner involvement

Almost all (98%) of the study participants had information about modern contraceptive and 81.15% respondents knew at least two modern contraceptives. Among study participants who had information about modern contraceptive, almost all (98.31%) mentioned as modern contraceptive use after childbirth is important. The main advantages mentioned were to space between child births (78.21%), to prevent unwanted pregnancy (27.38%) and not to have any more children (35.24%). Some of the respondents mentioned more than one advantage.

Health professionals and HEW were the main source of

Table 1. Socio-demographic characteristics of mothers of extended postpartum period in Gozamen district, Northwest Ethiopia, November, 2014.

Variable	Frequency	Percent
Place of residence		
Urban	265	32
Rural	564	68
Age in years		
15-24	220	26.5
25-34	508	61.3
≥ 35	101	12.2
Marital status		
Single	19	2.3
Married	796	96
Others	14	1.7
Religion		
Orthodox	792	95.5
Others	37	4.4
Educational status		
Can't read and write	558	67.3
Primary education	157	18.9
Secondary education	80	9.7
College and above	34	4.1
Husband Educational status		
Can't read and write	407	49.1
Primary education	182	22
Secondary education	159	19.2
College and above	51	6.2
Occupation		
Government employee	32	3.9
Private/NGO employee	71	8.6
House wife	688	83
Daily labourer	17	2.1
Unemployed	21	2.5
Distance from health service		
Less than 0.5 h	251	30.3
0.5-1 h	501	60.4
1-2 h	77	9.3

information. About 498 (60.1%) of study subjects had good knowledge of modern contraceptive. 432 (54.27%) of study participants had discussed about family planning with their husbands. Majority of husbands 390 (90.27%) approves the use of contraceptives. About half 420 (50.7%) of the respondents believe that decision should be made jointly with husband to use contraceptive method (**Table 3**).

Table 2. Reproductive health-related characteristics of mothers of extended postpartum period in Gozamen district, Northwest Ethiopia, November, 2014.

Variable	Frequency	Percent
Parity		
1	185	22.3
2-4	504	60.8
≥ 5	140	16.9
Abortion		
Yes	79	9.5
No	750	90.5
IUFD/Still-birth		
Yes	100	12.1
No	729	87.9
Neonatal, infant or child death		
Yes	34	4.1
No	795	95.9
Alive children by now		
1-2	399	48.1
3-4	299	36.1
≥ 5	131	15.8
Gap b/n the previous & current birth		
It is my first child	159	19.2
1-2 years	272	32.8
2-3 years	308	37.2
>3 years	90	10.9
Age of the Infant		
≤ 6 months	469	56.6
>6 months	360	43.4
Future reproductive plan		
Want no more children	170	20.5
Want another child within 2 years	4	0.5
Want another child after 2 years	64	7.7
Want another child after 3 years	466	56.2
Want another child after 3 years	466	56.2
Undecided	125	15.1
Number children planned (516)		
≤ 4	292	56.6
5-6	172	33.3
≥ 7	52	10.1
ANC at least once		
Yes	774	93.4
No	55	6.6
Institutional Delivery		
Yes	479	57.8
No	350	42.2
Contact with any health provider		
Yes	756	91
No	73	9

Information on breast feeding and menstrual return

All respondents were currently breastfeeding their infant. They usually breastfed their infant when the child cried (51%) and on convenience (29.4%). Half of (51.6%) mothers breastfed their child for about three years. 360 (43.4%) respondents started giving complimentary foods to their infant. Of these study subjects, 189 (52.5%) started to give additional foods at the age six months. The average months of menstrual return after child birth were 4.22 (± 1.6). 305 (36.8 %) of the study participants have already resumed menses postpartum (Table 4).

Modern contraceptive use during extended postpartum period

The current modern contraceptive utilization of EPP women of Gozamen district was found to be 387 (46.7%). The most commonly used method was Injectable 264 (68.2%) followed by Implants 107 (27.6%). Commonly mentioned reasons for choosing the method they are using were convenience of the method 49.37%, long acting 16.72%, influence of health provider 32.6% and other reasons. All current modern contraceptive users have got the service either from governmental hospitals/health centers or health posts. The mean time between childbirth and modern contraceptive adoption was 3.2 months. Among currently contraceptive users 212 (54.7%) started to use before menses resumes (Table 5).

Factors affecting modern contraceptive utilization

Place of residence, Educational status, discussion with husband, decision maker, knowledge and menses resumption remained statistically significant with modern contraceptive practice. Urban residents were about 3 times more likely to practice postpartum modern contraceptive than rural dwellers (AOR=3.1,

Table 3. Knowledge related characteristics and partner involvement of mothers of extended postpartum period in Gozamen district, Northwest Ethiopia, November, 2014.

Variable	Frequency	Percent
Ever heard any methods		
Yes	812	97.94
No	17	2.06
Number of method mentioned		
Two method	659	81.15
No	364	45.72
Husband's idea		
Approves of use	390	90.27
Disapproves use	33	7.63
Has no idea	9	2.08
Who make decision		
Jointly	420	50.7
Husband	177	21.4
Wife	232	28
FP use before current pregnancy		
Yes	472	56.9
No	357	43.0031

Table 4. Information on breast feeding and menstrual return of mothers of extended postpartum period in Gozamen district, Northwest Ethiopia, November, 2014.

Breast feeding habit		
When the child wants	101	12.2
When the child cries	423	51
On schedule	43	5.2
On convenience	244	29.4
When breast engorged	18	2.2
Up to when Breastfeed		
≤ 2 years	370	44.6
3 years	428	51.6
≥ 4 years	31	3.7
Complimentary feeding started		
Yes	360	43.4
No	469	56.6
Time complimentary feeding started		
≤ 5 months	76	21.1
At 6 months	189	52.5
≥ 7 months	95	26.4
Menses Returned		
Yes	305	36.8
No	524	63.2
When returned after birth		
≤ 3 months	107	35.1
4-6 months	159	52.1
≥ 7 months	39	12.8

Table 5. Information related to contraceptive practice of mothers of extended postpartum period in Gozamen district, Northwest Ethiopia, November, 2014.

Variables	Frequency	Percent
Current Contraceptive use		
Yes	387	46.7
No	442	53.3
Method used		
Injectable	264	68.2
Implants	107	27.6
Others	16	4.1
Time started using contraceptive		
At six weeks postpartum	177	45.7
2-6 months postpartum	190	49.1
≥ 7 months	20	5.2
Started Use In relation to menses		
Before menses resumes	212	54.7
In the same week when menses resumes	162	41.8
After menses resumes	13	3.4

95% CI: 1.14, 8.36). Those study participants who joined at least secondary school were about 4 times more likely to use a modern contraceptive method compared to women who drop out of school at elementary and can't read & write (AOR=4.1, 95% CI: 1,16.9). Postpartum women who had discussion about FP with their partners were about 3 times more likely to use contraceptive than who have no discussion (AOR=3.04, 95% CI:

1.12, 8.23). Couples who made decision about family planning jointly were about 5 times more likely to use a contraceptive method when compared to those their husband's made decision (AOR=5.05, 95% CI: 2.39, 10.68). Those mothers who had good knowledge about family planning were about 16 times more likely to use postpartum contraceptive than those who had poor knowledge (AOR=16.01 95% CI: 5.88, 43.56). Postpartum women whose menses had returned were about 8 times more likely to use contraceptive compared to amenorrhic women (AOR=8.49, 95% CI: 5.04, 14.3) (Table 6).

Discussion

Extended postpartum period is a crucial time to address unmet need for family planning easily because many women will access health service utilization during pregnancy, child birth and immunization. In this study, modern contraceptive practice during extended postpartum period was found to be 46.7% (95% CI: 43.3%, 50.1%). This finding is in line with research done in Bahirdar and Demographic health survey of Kenya and Zambia (48.8%, 46% and 45%), respectively [15,16]. Study done in Woreta showed that 63.7% respondents reported modern contraceptive utilization which is higher compared to this study [17]. This difference might be due to study area and target population variation, they are urban dwellers. 172 (38.9%) of mothers reported the reason for not using contraceptive was that their menses had not yet returned. Similar findings were reported from analysis of findings of seventeen countries, study done in Kenya, Zimbabwe [3,16,18-20].

This study revealed as there is a significant difference in contraceptive use among Urban and Rural dwellers. Those Urban dwellers were about three times more likely to use a contraceptive compared to rural dwellers (AOR= 3.1, 95% CI: 1.14, 8.36). The study done in Awassa, Bahirdar and analysis of four countries support this finding [18,21]. The possible explanation can be urban women have better access to information, education and health facilities than rural women.

The odds of modern contraceptive practice significantly increased as the educational level of women increases. Women with secondary and above education were more likely to practice modern contraception compared to women with elementary education and unable to read and write (AOR=4.1, 95% CI: 1,

Table 6. Factors affecting modern contraceptive practice of mothers of extended postpartum period in Gozamen district, Northwest Ethiopia, November, 2014.

Variables	Postpartum modern contraceptive Use	Standard error	t
Intercept	-254.377	12.379	-20.548
BL	1.196	0.187	6.394
CL	0.523	0.299	1.746
CW	1.697	0.671	2.528
CH	1.008	0.526	1.916
FSL	-0.017	0.654	-0.026
SSL	0.519	0.631	0.822
TSL	0.093	0.684	0.136
SISL	0.353	0.853	0.414

16.9). Similar findings have been reported on EDHS, study done Dembia (Ethiopia), Kenya and Zambia [7,15,22]. The possible justification can be as educational attainment increases, health service seeking behavior of the women increases. In addition, knowledge of contraceptive and advantage of contraceptive utilization will be understood well. Mothers who have discussed contraception with their partner during extended postpartum period were three times more likely to be current contraceptive users (AOR=3.04, 95% CI: 1.12, 8.23). Spousal communication is considered as an important driving force to practice postpartum modern contraception in this study. This finding could be explained by the fact that decisions made jointly with agreement of both couples will have better outcome when compared with decision made by only one side since issue of family planning is not only the concern of one partner. According to EDHS report women who have talked about FP with their husbands have less unmet need of FP than their counterparts [7]. This finding is also in line with study conducted in Ethiopia, Ghana and Congo [14,21,23].

In relation to the above finding, Joint decision about family planning has showed significant positive difference on modern contraceptive practice (AOR=5.05, 95% CI: 2.39, 10.68). Findings of studies done in different countries revealed as information sharing with their husband has positive significance on contraceptive practice during EPP period [13,14,24].

This study also confirmed that knowledge of modern contraception is an important determinant of contraceptive practice. Those study participants who have good knowledge of modern contraceptive were more likely to use contraceptive compared to women who have poor knowledge (AOR=16.01 95% CI: 5.88, 43.56). Consistent finding was reported from study done in Kenya and Zambia [15,17]. This could be due to several factors such as previous use of modern contraceptive, Knowledge on advantage of contraceptive utilization, understanding risk of pregnancy after childbirth, planning number of children they want to have ahead etc. Women whose menses had returned were more likely to be using modern contraception than women whose menses had not yet returned (AOR= 8.49, 95% CI: 5.04, 14.3). This might be due to postpartum mothers do not perceive themselves as at risk of pregnancy or underestimate risk of pregnancy because their menses has not returned. Most mothers who were not currently using contraceptive mentioned as they do not start using contraceptive until menses has returned regardless of the time of postpartum period, which can be risky.

Conclusion

Current utilization of modern contraceptive was unsatisfactory. Even though majority of women had contact with health providers during ANC and/or after delivery, utilization of modern contraceptive still remains low due to service delivery problem and identified factors. Being urban resident, increased educational level, partner involvement, having good knowledge of modern contraceptive and return of menses after child birth were significant determinants of modern contraceptive utilization in EPP period.

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Declaration

We declare that this study is our original work and has not been

presented for a degree in this or any other university and that all sources of materials used for this thesis have been properly acknowledged.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

Workineh wrote the proposal, participated in data collection, analyzed the data and drafted the paper. Fisseha and Mulunesh revised the proposal. Hinsermu, approved the proposal with some revisions, participated in data analysis and revised subsequent drafts of the paper. Both authors read and approved the final manuscript.

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